

### **REMARKS**

This Amendment is being filed in response to the Office Action dated January 9, 2008. Claims 1-32 are currently pending and stand rejected in the application. Of these, claims 1, 9, 17 and 25 are independent. By this Amendment, claims 1-2, 4-10, 16-26, 28-29 and 31-32 have been amended to address formalistic, non-narrowing matters. No new matter has been added. Applicants respectfully request reconsideration in light of the comments set forth herein, and respectfully maintains that this application is in condition for allowance.

#### **Objection to the Claims**

In the Office Action, claims 16 and 17 are objected to, and the Examiner recommended that claims 16 and 17 be amended to recite, “estimating a bucket transition distribution” or “estimating bucket transition distributions.” By this Amendment, claims 16-17 have been amended to recite, “estimating a bucket transition distribution” as suggested. Accordingly, Applicants respectfully submit that the objection as been rendered moot.

#### **Rejection Under 35 U.S.C. §112**

The Office Action rejects claims 1 under 35 U.S.C. §112, second paragraph, as 2-8, 10-11, 15-16, 18-19, 21-24, 26 and 28-32 being indefinite. More specifically, the Examiner asserts that the claims have at least one claim element lacking antecedent basis. By this Amendment, claims 2-8, 10-11, 15-16, 18-19, 21-24, 26 and 28-32 have been amended to address this issue, and Applicants respectfully request withdrawal of the rejection.

#### **Rejection Under 35 U.S.C. §102**

Claims 1-5, 7-13, 15-21, 23-29, 31 and 32 stand rejected under 35 U.S.C. §102(b) as being anticipated by U.S. Patent No. 6,321,212 to Lange (Lange). In order to be anticipated by a cited reference, each and every element of the claim must be taught or suggested in the

reference. *See Riles v. Shell Exploration and Prod. Co.*, 298 F.3d 1302, 1308 (Fed. Cir. 2002).

Applicants respectfully submit that Lange is directed toward methods and systems for demand-based trading, in contrast to the invention as claimed, which includes estimating a bucket transition distribution. More specifically, Lange does not teach or suggest “calculating bucket transition probabilities” and “estimating a bucket transition distribution” using the calculated bucket transition probabilities as required in independent claims 1, 9, 17 and 25, and thus, Applicants respectfully submit that Lange does not anticipate the stated claims.

Lange is directed toward permitting a trader to “invest on their expectation of a return resulting from the occurrence of a particular outcome within a selected state. Such investments allow traders to hedge the possible *outcomes* of real-world events of economic significance represented by the states.” (Col. 16, lines 16-24) (emphasis added). Thus, each investor can guess what state the financial product will be in when termination criteria are met and make an investment associated with that particular state. The investors do not provide input regarding transitioning between states and their returns are not based on any transitioning between states. Each investor’s return is based on the relative amounts invested by all investors in all the states when the termination criteria are met. In other words, Lange is directed to allowing an investor to guess how an investment will ultimately react to certain events and then bet on that guess.

In contrast, the present invention provides an objective method of “calculating bucket transition probabilities.” The present application describes the bucket transitions of a claimed embodiment as “the bond transitioning from one bucket to each other bucket for a particular time period (for example, a month in the present embodiment)” Paragraph [0033].

Whereas the Examiner cites to specific parts of Lange as teaching the claim elements, one of ordinary skill would understand that Lange does not teach the invention as claimed, either in the asserted sections or elsewhere in Lange. For example, the Examiner cites to column 34, lines 23-26 and column 36, lines 45-46 as disclosing bucket transition probabilities. Column 34, lines 23-26 states that “total distribution of amounts invested in the various states also implies an assessment by all traders collectively of the probabilities of occurrence of each state.” In other words, the relative amount invested in each state might imply the traders’ collective belief of such state occurring; however, no calculation of probabilities is actually made and no probabilities of transitioning between states is even implied.

Furthermore, column 36 lines 45-46 of Lange states that the “amount invested in each state is a function of trader preferences and probability assessments of each state.” (emphasis added). No calculation is made. Rather, the probabilities depend purely on the personal preferences of the traders. Lange thus relies on the traders’ assessments and is not directed to an objective method of conducting calculations and evaluations regarding the financial product reaching the specified state, let alone the transition between the specific states.

Thus, Lange is concerned with traders’ personal assessments of which single state the financial product would be in when the termination criteria are met. Transitions between states are not being considered in Lange. Accordingly, Applicants respectfully maintain that Lange is not directed toward the transition of a bond between buckets, the probabilities of such transitions as claimed, or a “bucket transition distribution” for the bonds based on the probabilities calculated as claimed.

Accordingly, Applicants respectfully submit that independent claims 1, 9, 17 and 25 are patentable over Lange. Applicants also respectfully submit that at least because

independent claims 1, 9, 17 and 25 are patentable over Lange, claims 2-5, 7-8, 10-13, 15-16, 18-21, 23-24, 26-29, 31 and 32, which depend therefrom, are also patentable over Lange.

**Rejection Under 35 U.S.C. §103**

Claims 6, 14, 22 and 30 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Lange in view of Official Notice. The Examiner concedes that Lange fails to teach determining a cumulative default rate for a number of time periods by summing default balances for each of the number of time periods and dividing the sum by an average balance for a first of the number of time periods. The Examiner asserts that this step is old and well known in the art of probability theory.

In order for a claim to be rendered unpatentable under 35 U.S.C. §103(a), the invention being claimed must have been obvious to a person of ordinary skill in the art at the time the invention was made. *See* M.P.E.P. §2141. As the Supreme Court confirmed in *KSR International Co. v. Teleflex Inc.*, 127 S. Ct. 1727, 82 U.S.P.Q.2d 1385 (2007) and set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), the scope and content of the prior art; the differences between the claimed invention and the prior art; and the level of ordinary skill in the prior art must be established when determining whether or not an invention is rendered obvious by the prior art. *Id.*

The Examiner asserts that Lange in view of Official Notice teaches all of the claim elements of claims 6, 14, 22 and 30. However, Applicants respectfully point out that claims 6, 14, 22 and 30 depend from independent claims 1, 9, 17 and 25, which require “calculating bucket transition probabilities” for a bond and “estimating a bucket transition distribution” for the bond, and more particularly for a plurality of bonds, which Lange fails to teach or suggest, as discussed above. The Official Notice does not cure these deficiencies, and

thus neither Lange nor the Official Notice, alone or in combination, teach or suggest all the elements of the recited claims. Accordingly, Applicants respectfully submit that the Examiner has failed to establish a prima facie case of obviousness.

Moreover, Applicants note that the Examiner takes Official Notice of something other than recited claim elements (namely the summing of default balances and dividing the sum by an average). More particularly, the Examiner does not claim that it was well known in the art to calculate the probabilities of transitions of bonds between a plurality of price buckets as claimed and estimating a bucket transition distribution as claimed. Therefore, Official Notice fails to remedy the deficiencies of Lange and thus Lange in view of Official Notice fails to teach or suggest claim elements “calculating bucket transition probabilities” for a bond and “estimating a bucket transition distribution” for the bond, and more particularly for a plurality of bonds, as required in independent claims 1, 9, 17 and 25 from which claims 6, 14, 22 and 30 depend.

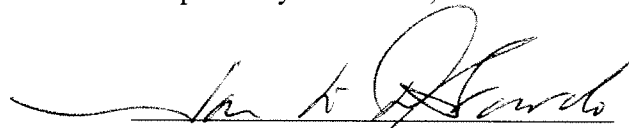
Furthermore, one of ordinary skill would not apply the Official Notice to the process of Lange. The “determining a cumulative default rate for a number of time periods...” has no applicability to the process of Lange. As discussed above, investors in Lange invest in the state of the financial product at a single point in time, namely when the termination criteria are met and Lange bases returns on the relative amount invested in each state at this same point in time. There is no mention of and no need for multiple trials or time periods over which to take an average. One of skill in the art would not consider cumulative default rates for a number of time periods relevant to this process.

Accordingly, Applicants respectfully maintain that claims 6, 14, 22 and 30 are patentable over Lange and Official Notice, either taken alone or in combination and request withdrawal of the rejection.

### CONCLUSION

No fee, other than the two-month extension of time submitted herewith, is deemed necessary in connection with the filing of this Amendment. However, if any fee is required, the Examiner is hereby authorized to charge the amount of such fee to Deposit Account No. 19-4709.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "Ian G. DiBernardo", is written over a horizontal line.

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